AMENDMENTS TO THE CLAIMS

Please amend the claims of the present application as set forth below. In accordance with the PTO's revised amendment format, a detailed listing of all claims has been provided. This listing of claims will replace all prior versions and listings of claims in the application. Changes to the claims are shown by strikethrough or double brackets (for deleted matter) and underlining (for added matter).

By way of overview, claims 1-3, 11-13, 15-20, and 23-35 are currently pending. More specifically, the status of the claims is indicated below:

a) Claims 1, 6, 9, 11, 16, 19, and 23-28 are currently amended;

b) Claims 2, 3, 5, 7, 8, 10, 12, 13, 15, and 17, 18, and 20 are original;

c) Claims 29 and 30 were previously presented;

d) Claims 31-35 are new; and

e) Claims 4, 14, 21, and 22 are canceled without prejudice or disclaimer.

Listing of Claims

1. (Currently amended) A method for processing video data _in an apparatus including a computer processing module and a graphics processing module_, comprising:

receiving a principal video stream from a source _via plural inputs to the graphics processing module, the plural inputs associated with respective components of the principal video stream_;

receiving a video sub-stream containing supplemental information associated with the principal video stream _via another input to the graphical processing module_;

in a single stage operation, performing, _by the graphics processing module,_ an operation on the principal video stream and combining the principal video stream with

the video sub-stream to produce processed data, wherein the single stage operation requires only a single read transaction to perform the single stage operation; and

outputting the processed data,

wherein each of the plural inputs for receiving the principal video stream and the other input for receiving the video sub-stream refer to separate inputs, and

wherein the graphics processing module executes video processing tasks using a 3D graphics pipeline.

2. (Original) The method according to claim 1, wherein the performing of the operation comprises de-interlacing the principal video stream.

3. (Original) The method according to claim 1, wherein the performing of the operation comprises resizing the principal video stream.

4. (Canceled).

5. (Original) The method according to claim 1, wherein the performing and the combining are performed in a YUV color space.

6. (Currently amended) The method according to claim 1, further including a step of forwarding instructions to [[a]] the graphics processing module, the instructions informing the graphics processing module how to execute the performing and the combining.

7. (Original) The method according to claim 6, wherein the instructions identify a location at which to receive the principal video stream, a location at which to receive the video sub-stream, and a location at which to provide the processed data.

8. (Original) The method according to claim 7, wherein the instructions identify a rectangle of data from which to receive the principal video stream within a video stream surface, a rectangle of data from which to receive the video sub-stream within a video sub-stream surface, and a rectangle at which to output the processed data within a destination surface.

9. (Currently amended) The method according to claim 1, wherein the video sub-stream includes at least one of: close captioned information; DVD sub-picture information; [[and]] or PAL teletext information.

10. (Original) The method according to claim 1, wherein the performing and the combining are performed on an apparatus that uses a Uniform Memory Architecture (UMA) design.

11. (Currently amended) An apparatus for processing video data, comprising:

a computer processing module for controlling the apparatus;

a renderer module;

a [[data]] graphics processing module; and

an interface module that couples the renderer module to the data processing module,

wherein the renderer module includes logic configured to generate and provide instructions to the [[data]] graphics processing module to execute at least the following functions in a single stage:

a) performing an operation on a [[received]] principal video stream received via plural inputs to the graphics processing module, the plural inputs associated with respective components of the principal video stream; and

b) combining the received principal video stream with a video sub-stream, wherein the video sub-stream is received via another input to the graphics processing module,

wherein the single stage operation requires only a single read transaction to perform the single stage operation,

wherein each of the plural inputs for receiving the principal video stream and the other input for receiving the video sub-stream refer to separate inputs, and

wherein the graphics processing module is configured to execute video processing tasks using a 3D graphics pipeline.

12. (Original) An apparatus according to claim 11, wherein the performing of the operation comprises de-interlacing the principal video stream.

13. (Original) An apparatus according to claim 11, wherein the performing of the operation comprises resizing the principal video stream.

14. (Canceled).

15. (Original) The apparatus according to claim 11, wherein the performing and the combining are performed in a YUV color space.

16. (Currently amended) The apparatus according to claim 11, wherein the instructions provided by the renderer module inform the [[data]] graphics processing module how to execute the performing and the combining.

17. (Original) The apparatus according to claim 16, wherein the instructions identify a location at which to receive the principal video stream, a location at which to receive the video sub-stream, and a location at which to provide the processed data.

18. (Original) The apparatus according to claim 17, wherein the instructions identify a rectangle of data from which to receive the principal video stream within a video stream surface, a rectangle of data from which to receive the video sub-stream within a video sub-stream surface, and a rectangle at which to output the processed data within a destination surface.

19. (Currently amended) The apparatus according to claim 11, wherein the video sub-stream includes at least one of: close captioned information; DVD sub-picture information; [[and]] or PAL teletext information.

20. (Original) The apparatus according to claim 11, wherein the apparatus is configured to operate using a Uniform Memory Architecture (UMA) design.

21. (Canceled).

22. (Cancelled).

23. (Currently amended) The apparatus according to claim 11, wherein the [[data]] graphics processing module includes multiple texturing units associated with the plural inputs and the other input , ~~wherein a first texturing unit is allocated to a component of the received video stream, and a second texturing unit is allocated to the received video sub stream~~.

24. (Currently amended) The apparatus according to claim 23, wherein the [[data]] graphics processing module is configured to execute the performing and the combining in a single stage by [[processing]] reading video data associated with [[obtained from]] the [[first and second]] multiple texturing units [[substantially in parallel]] at the same time.

25. (Currently amended) An apparatus for processing video data, comprising:

a memory;

a computer processing module for controlling the apparatus, the computer processing module being coupled to the memory;

a renderer module;

a graphics processing module coupled to same memory as the computer processing module; and

an interface module that couples the renderer module to the graphics processing module,

wherein the renderer module includes logic configured to generate and provide instructions to the graphics processing module to execute at least the following functions in a single stage:

a) performing an operation on a [[received]] principal video stream received via plural inputs to the graphics processing module, the plural inputs associated with respective components of the principal video stream; and

b) combining the received principal video stream with a video sub-stream, wherein the video sub-stream is received via another input to the graphics processing module,

wherein the graphics processing module includes logic configured to receive the instructions provided by the renderer module, and in response thereto, execute the performing and the combining,

[[and]] wherein the single stage operation requires only a single read transaction to perform the single stage operation,

wherein each of the plural inputs for receiving the principal video stream and the other input for receiving the video sub-stream refer to separate inputs, and

wherein the graphics processing module is configured to execute video processing tasks using a 3D graphics pipeline.

26. (Currently amended) An apparatus for processing video data, comprising:

computer processing means for controlling the apparatus;

graphical processing means for performing graphical processing tasks, comprising:

means for receiving a principal video stream from a source <u>via plural inputs to the graphical processing means, the plural inputs associated with respective components of the principal video stream</u>;

means for receiving a video sub-stream containing supplemental information associated with the principal video stream <u>via another input to the graphical processing means</u>;

means, in a single stage operation, for performing an operation on the principal video stream and combining the principal video stream with the video sub-stream to produce processed data, wherein the single stage operation requires only a single read transaction to perform the single stage operation; and

<u>means for</u> outputting the processed data,

<u>wherein each of the plural inputs for receiving the principal video stream and the other input for receiving the video sub-stream refer to separate inputs, and</u>

<u>wherein the graphics processing means is configured to execute video processing tasks using a 3D graphics pipeline.</u>

27. (Currently amended) A computer readable media having machine readable instructions stored thereon <u>for use by an apparatus including a computer processing module and a graphics processing module</u>, the instructions comprising:

logic <u>associated with the graphics processing module</u> configured to receive a principal video stream from a source <u>via plural inputs of the graphical processing module, the plural inputs associated with respective components to the principal video stream</u>;

logic <u>associated with the graphics processing module</u> configured to receive a video sub-stream containing supplemental information associated with the principal video stream <u>via another input to the graphical processing module</u>;

logic <u>associated with the graphics processing module</u> configured to, in a single stage operation, perform an operation on the principal video stream and combine the principal video stream with the video sub-stream to produce processed data, wherein the single stage operation requires only a single read transaction to perform the single stage operation; and

logic configured to output the processed data<u>,</u>

<u>wherein each of the plural inputs for receiving the principal video stream and the other input for receiving the video sub-stream refer to separate inputs, and</u>

<u>wherein the graphics processing module is configured to execute video processing tasks using a 3D graphics pipeline.</u>

28. (Currently amended) A method for processing video data <u>using a graphics processing module</u>, comprising:

receiving a principal video stream from a source <u>via plural inputs to the graphics processing module, the plural inputs associated with respective components of the principal video stream</u>;

receiving a video sub-stream containing supplemental information associated with the principal video stream <u>via another input to the graphics processing module</u>;

in a single stage operation, performing an operation on the principal video stream and combining the principal video stream with the video sub-stream to produce processed data, wherein the single stage operation involves reading first input data associated with the received principal video stream in parallel with second input data associated with the received video sub-stream data; and

outputting the processed data<u>,</u>

wherein each of the plural inputs for receiving the principal video stream and the other input for receiving the video sub-stream refer to separate inputs, and

wherein the graphics processing module executes video processing tasks using a 3D graphics pipeline.

29. (Previously presented) The method of claim 1, wherein the single stage operation includes only one read transaction.

30. (Previously presented) The method of claim 29, wherein the single stage operation includes only one write transaction.

31. (New) The method of claim 1, wherein the graphics processing module includes multiple texturing units associated with the plural inputs and the other input.

32. (New) The apparatus of claim 25, wherein the graphics processing module includes multiple texturing units associated with the plural inputs and the other input.

33. (New) The apparatus of claim 26, wherein the graphics processing means includes multiple texturing units associated with the plural inputs and the other input.

34. (New) The computer readable media of claim 27, wherein the graphics processing module includes multiple texturing units associated with the plural inputs and the other input.

35. (New) The method of claim 28, wherein the graphics processing module includes multiple texturing units associated with the plural inputs and the other input.